



2012 "VOLUNTEERS WORKING WITH INVASIVES" GRANTS REPORT FORM

Display Report

PROJECT BACKGROUND INFORMATION

Project Title:	Sandbur Eradication at French Frigate Shoals: The Sequel	
Region: Use region number ONLY	1	
Station:	Papahanaumokuakea Marine National Monument, Hawaiian Islands NWR	
Contact Person: Name and Phone Number	Meg Duhr-Schultz, 808-792-9483	
Project Description: (Up to 250 words)	<p>Sandbur is an aggressive annual grass that poses a serious threat to seabird and sea turtle nesting habitat within Papahanaumokuakea Marine National Monument. Because of this threat, it is a Monument-wide priority for eradication and major efforts were undertaken to eliminate the plant from Tern and East Islands within French Frigate Shoals in the early 1990's. Efforts were considered successful and post-treatment monitoring continued until 1998. No plants had been found on either island since 1996. In the winter of 2011, following a summer of the highest level of green sea turtle nesting activity on East Island ever recorded in 39 years of continuous monitoring, sandbur was again observed on East Island. Whether a long-dormant seed bank of the grass was released by the record-breaking extent of turtle digging or the grass was re-introduced by humans in recent history remains unknown and, for our purposes, unimportant. Re-eradication is an especially high priority because East Island provides critical nesting habitat for over 90% of the entire population of Hawaiian green sea turtles (<i>Chelonia mydas</i>) as well as several seabird species. At the time the grass was discovered, the field station, which is based on Tern Island seven miles away, lacked any functional outboard motors. Rapid response was therefore impossible. Grant funds were primarily used to purchase a new outboard motor in order to leverage existing volunteer resources and resume sandbur eradication efforts on East Island.</p>	
List of Invasives Species Targeted:	Common Name	Scientific Name
	Sandbur	<i>Cenchrus echinatus</i>
Project Status:	InProgress	
Project Completion Date or Estimated Completion Date: (mm/dd/yyyy)	12/15/2015	

VOLUNTEER INFORMATION

Volunteer Affiliation: (Check all that apply)	VA_Other
Volunteer Involvement: Describe the type of work the volunteers performed. (Up to 150 words)	Volunteers were the primary labor source during this project. Under staff direction, a volunteer crew contributed over a hundred hours of hand-pulling sandbur on East Island. One volunteer showed a particularly strong interest in invasive plant control and led efforts to map the infestation with handheld GPS units, track the hours spent and locations of weeding efforts, and incorporate the data into a GIS for East Island. This required an estimated 40 hours of volunteer time. Volunteers were also critical to our atoll-wide early detection and rapid response efforts, performing plant surveys on Tern Island, the only other vegetated island within French Frigate Shoals.
Total Number of Volunteers:	3
Total Number of Volunteer Hours:	130
Partnerships: List both new and existing partnerships utilized in this project. (Up to 150 words).	The extreme remoteness and sensitivity of the site means that outside parties are rarely involved directly in our efforts. However, staff and volunteers did regularly incorporate project updates and lessons on native and invasive plant ecology into our education and outreach program, which connects field crews with Hawaii school students via Skype and email. We also depended on the strong on-the-ground support of our efforts from the NOAA/NMFS seal and turtle researchers who work and camp on East Island during the summer. Despite differing agency affiliations we had their full participation in intra-atoll quarantine measures to prevent sandbur from being re-introduced on Tern Island. Everybody working at French Frigate Shoals this season understood how serious of a threat sandbur poses and fully supported our efforts to contain it to East Island. This kind of cooperation can only happen with strong interagency partnerships and a shared sense of mission.

PROJECT RESULTS

Project Results: Give an overview of the results of the project. Include quantifiable measure of success, such as maps produced, efficacy of control measures, number of sites where invasions were detected early and responded to, number of community contacts, etc. (Up to 250 words).	We began efforts to map the extent and density of the infestation with handheld GPS units in late April. At that time, sandbur was found over 5.70 acres of the 9 acre island. Density was highly variable but in some areas, sandbur was the dominant plant cover, forming dense mats. After multiple back-to-back weeding trips to East Island, by mid-May our all-crew efforts had successfully removed all existing sandbur from the island. At that time we transitioned to weekly weeding trips to remove all new growth. This schedule continued through the summer and remains in place at present. We continue to survey the entire island once per week, but the significant majority of sandbur regrowth is presently confined to a total area of 1.85 acres. Hand-pulling was the only method we used this season. Proximity to sensitive coral reef ecosystems, as well as nesting seabirds and turtles prohibited chemical control methods. From May-October an estimated 122 bushels of sandbur were removed from East Island. Because annual turtle nesting causes a great deal of soil disturbance, we expect that sandbur will continue emerging on East Island for many years to come. Our current plan is to continue weekly trips to East Island to remove all new growth as it occurs, until the plant is eventually eliminated entirely from seed bank.
Number of Acres Treated:	6
Number of Acres Inventoried and/or Mapped:	9.5
Number of Acres Restored:	0

BUDGET INFORMATION

Budget: Account for funds in broad categories such as equipment, volunteer stipends, travel, coordinator salary/contract, etc.

Total Grant Amount:	\$ \$9,858
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Breakdown of Expenditures:

Category	Total \$ Spent	% of Total Grant
Equipment / Supplies	\$9858	100%
Chemical		
Biocontrol Agents		
Travel		
Volunteer Stipends		
Volunteer Coordinator Salary/Contract		
Restoration Materials		
Other		
TOTAL	\$9858	100%

Recommendations: (OPTIONAL) How useful was this program for meeting refuge invasive species objectives and how can it be improved?	Without these grant funds, accessing the part of our refuge that is infested by sandbur would have been literally impossible. Thank you for making this work possible.
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